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Dinosaur Reservoir and Peace River Volunteer Creel Summary 2003

D.M. Cowie
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PWFWCP Report No. 292

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

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This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

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DINOSAUR RESERVOIR AND PEACE RIVER VOLUNTEER CREEL SUMMARY 2003

Permit # SC2003-012
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PROJECT OVERVIEW

In May 2003, 10 volunteer anglers from Hudson's Hope, B.C. were provided with sample kits to collect data within Dinosaur Reservoir and the Peace River (from the highway 27 bridge to downstream of Cache Creek). The kits contained scale envelopes, sample tools, maps, data sheets and instructions that would be required for various types of samples. Information/orientation sessions for the volunteers were held in May by Peace/Williston Fish & Wildlife Compensation Program (PWFWCP) staff.

Samples were collected by a local resident (Kelly Newsholme) who participated in the creel. In addition to the volunteer data, samples from the annual fishing derby on Father's Day (June 15, 2003) held by the Hudson's Hope Ski Association were collected by PWFWCP staff. Lake trout data from a lake trout telemetry project being implemented by PWFWCP is also included. Age data was sent to North/South Consultants for age determination.

The Watershed code for the Peace River is 230. The waterbody ID for Dinosaur Reservoir is WBID 01273UPCE.

DATA SUMMARY

Sites were designated in Dinosaur Reservoir from PWFWCP boat electrofishing (sites 1-43, Figure 1), while the Peace River was broken into zones based on tributary confluences with the Peace River (Figure 2).

Samples were provided by 7 of the 10 volunteers. The most common angling location within Dinosaur Reservoir was the upper most legal fishing boundary 100 m downstream of Gething Creek (site 38). Other angling locations in Dinosaur Reservoir were the areas across from Johnson Creek Bay (sites 24 + 41) and locations around the boat launch (sites 1- 4) (Figure 1). Angling in the Peace River was reported between the Highway 27 bridge and the Halfway River, with the majority of data reports from the zone between Maurice Creek and Farrell Creek (zone B) (Figure 2).

Overall the total number of fish caught was 140 (all species), 47 of which were sampled (Table 1) and 31 were killed. Thirteen lake trout (all from Dinosaur Reservoir) and 18 rainbow (15 from Dinosaur Reservoir and 3 from the Peace River) were kept (not all fish kept were sampled). Seven Arctic grayling were caught from the Peace River (all in zone B) and five were sampled.

Casting and use of down-riggers were the angling methods reported for Dinosaur Reservoir. Casting and fly fishing were the methods reported in the Peace River.

Table 1. Species sampled and locations of catch.

Location	Bull trout	Lake trout	Arctic grayling	Rainbow trout
Dinosaur Reservoir	1	24	0	6 *
Peace River	0	0	5	11 **
Total sampled	1	24	5	17

* 2 hatchery adipose clips
** 1 hatchery adipose clip and 1 hatchery adipose clip with a right pelvic clip

Rainbow trout were the most frequently caught fish in Dinosaur reservoir (61 of 86 fish or 71%) but only 15 caught were kept. Lake trout were the species most frequently kept by anglers (11 of 13 fish or 85% of fish caught were kept). In the Peace River, whitefish were the most frequently caught (26 of 47 fish or 55%) but none were retained. Overall, in both the Peace River and Dinosaur Reservoir, 22% of fish caught were retained by anglers (Table 2).

Table 2. Retention versus release of fish angled.

Location	**Species**	**# Caught**	**# Kept**	**# Released**
Peace river	BT	6	0	6
	LT	0	0	0
	Rb	10	3	7
	GR	5	0	5
	WF	26	0	26
	totals	**47**	**3**	**44**
Dinosaur Reservoir	BT	12	0	12
	LT	13	11	2
	Rb	61	15	46
	GR	0	0	0
	WF	0	0	0
	totals	**86**	**26**	**60**
Total for both locations		**133**	**29**	**104**

NB: Only fish that total angler hours were reported were included in the retention vs. release table.

Age analysis was conducted on all samples provided (Table 4). For information purposes, the lake trout age data from the 2003 boat electrofishing and lake trout telemetry projects were compiled and compared to the lake trout creel data (Figure 3).

Two rainbow trout from Dinosaur Reservoir and two from the Peace River were marked hatchery fish (adipose clips). One rainbow from the Peace River had both an adipose clip and a right pelvic fin clip. Due to incomplete data recording of marks and clips of rainbow trout, no clear comparison can be made as to the contribution of hatchery fish to the fishery in Dinosaur Reservoir or the Peace River.

Seventy-nine and a half angling hours were reported. Some data sheets were not fully completed, so total angling hours is not available. To calculate catch per unit effort

(CPUE), only reports with complete angler hours were included in the CPUE calculation. The CPUE effort calculation used data from 13 angler days in the Peace River and 15 angler days in Dinosaur Reservoir (Table 3).

This survey was conducted with a small selected group of local anglers with the primary goal of collecting samples for age growth analysis. As a result the CPUE was up to six times higher than that determined by previous creels, which sampled the general population.

Table 3. Catch Per Unit Effort for Dinosaur Reservoir and Peace River.

Location	Year	Angler hours	Catch	CPUE*
Dinosaur Reservoir	1999	3772	1276	0.31
	2000	4339	1236	0.25
	2003	53.5	86	1.61
Peace River	2003	26	47	1.81

*NB: Only fish data from anglers that reported total angler hours was used to determine CPUE for 2003. 1999 and 2000 creel survey data is from a complete creel census that was conducted only on Dinosaur Reservoir from May to September of each year.

PROJECT CONTINUATION IN 2004

The Dinosaur volunteer creel project will continue in 2004. This type of volunteer creel has minimal costs and provides good age/growth data for Dinosaur Reservoir Lake trout and other species. In time this project could also provide information on trends in catch per unit effort and contribute to the data base on the recapture of hatchery fish and other fish marked in Dinosaur Reservoir and the Peace River.

In addition to the data collected being useful for various projects and potentially in management decisions, the educational value of this project in the local community is significant. Members of the public are becoming increasingly aware of fisheries issues and the role PWFWCP has in the Williston watershed.

Table 4. Age analysis of samples provided.

Date	Location ID	Sp	Ln (mm)	Wt (lbs)	Wt (g)	Age	Old Marks / clips	New clips	Sex	Comments
OTOLITH SAMPLES ONLY										
27-May-03	Dino 38	LT	540	5.2	2359	12	none			T.Roberts
27-May-03	Dino 38	LT	500	3.5	1588	7	none			T.Roberts
27-May-03	Dino 38	LT	660	8	3629	16	none			T.Roberts; Female with older eggs
07-Jun-03	Dino 38	LT	410	1.4	635	10				K.Howard
07-Jun-03	Dino 38	LT	620	5.7	2585	17				K.Howard
15-Jun-03		LT	501	2.08	943	13				Derby - otolith
15-Jun-03		LT	450	1.7	771	13				Derby - otolith
15-Jun-03		LT	410	1.49	676	11				Derby - otolith
15-Jun-03		LT	415	1.66	753	9				Derby - otolith
15-Jun-03		LT	420	1.48	671	13				Derby - otolith
15-Jun-03		LT	400	1.34	608	15				Derby - otolith
15-Jun-03		LT	405	1.33	603	12				Derby - otolith
15-Jun-03		LT	820	13.52	6133	16				Derby - otolith
26-Jul-03	Dino 38	LT	510	2	907	10	none		M	B.Quibell
26-Jul-03	Dino 38	LT	560	2.9	1315	11	none		M	B.Quibell
27-Jul-03	Dino 38	LT	580	4.3	1950	unageable	none		M	B.Quibell
04-Aug-03	Dino 38	LT	420	1.1	499	8	none		M	B.Quibell
04-Aug-03	Dino 38	LT	470	1.5	680	15	none		F	B.Quibell
10-Aug-03	Dino 38	LT	600	4.2	1905	14	none		F	B.Quibell
10-Aug-03	Dino 38	LT	610	3.9	1769	15	none		F	B.Quibell
30-Aug-03	Dino 38	LT	445	2.5	1134	12	none			D.Bishop
FIN RAY SAMPLES ONLY										
27-May-03	Dino 38	BT	700	14.5	6577	17	none	pelvic fin		T.Roberts - fin ray, released
27-May-03	Dino 38	LT	610	4.7	2132	13	none	pelvic fin		T.Roberts - fin ray, released
27-May-03	Dino 38	LT	405	4.3	1950	9	none	pelvic fin		T.Roberts - fin ray, released
SCALE SAMPLES ONLY										
30-May-03	Zone C	RB	440	1.7	771	6			M	R.Brown
31-May-03	Zone C	RB	410	1.4	635	5				R.Brown
31-May-03	Zone C	GR	340	0.9	408	3				R.Brown
31-May-03	Zone C	GR	340	0.8	363	4				R.Brown
18-Jul-03	Zone D	RB	390	1.3	590	3			F	R.Brown
18-Jul-03	Zone D	RB	460	2	907	4			M	R.Brown
07-Jun-03	Zone B	GR	340	0.9	408	6				D.Bishop
07-Jun-03	Zone B	GR	320	0.7	318	5				D.Bishop
01-Jun-03	Dino 38	RB	350	0.9	408	3	adipose		M	K.Newsholme
05-Jun-03	Zone B	GR	430			3				K.Newsholme
08-Jun-03	Zone B	RB	580	0.9	408	unageable	ad & rt pel		M	K.Newsholme
08-Jun-03	Zone B	RB	550	0.8	363	5	ad		M	K.Newsholme
10-Aug-03	Dino 41	RB	350	1.1	499	4				B.Quibell
10-Aug-03	Dino 41	RB	300	0.6	272	3				B.Quibell
10-Aug-03	Dino 41	RB	310	0.6	272	4				B.Quibell
10-Aug-03	Dino 41	RB	320	0.5	227	5				B.Quibell

10-Aug-03	Dino 41	RB	290	0.5	227	4		B.Quibell
14-Jun-03	Zone A-3	RB	319	0.9	408	3		M.Green
03-Jun-03	Zone A-3	RB	310	0.7	318	unageable	F	M.Green
02-Jul-03	Zone A-3	RB	270	0.4	181	3	F	M.Green
02-Jul-03	Zone A-3	RB	310	0.9	408	3	F	M.Green
20-Jul-03	Zone B	RB	340	0.9	408	5		M.Green

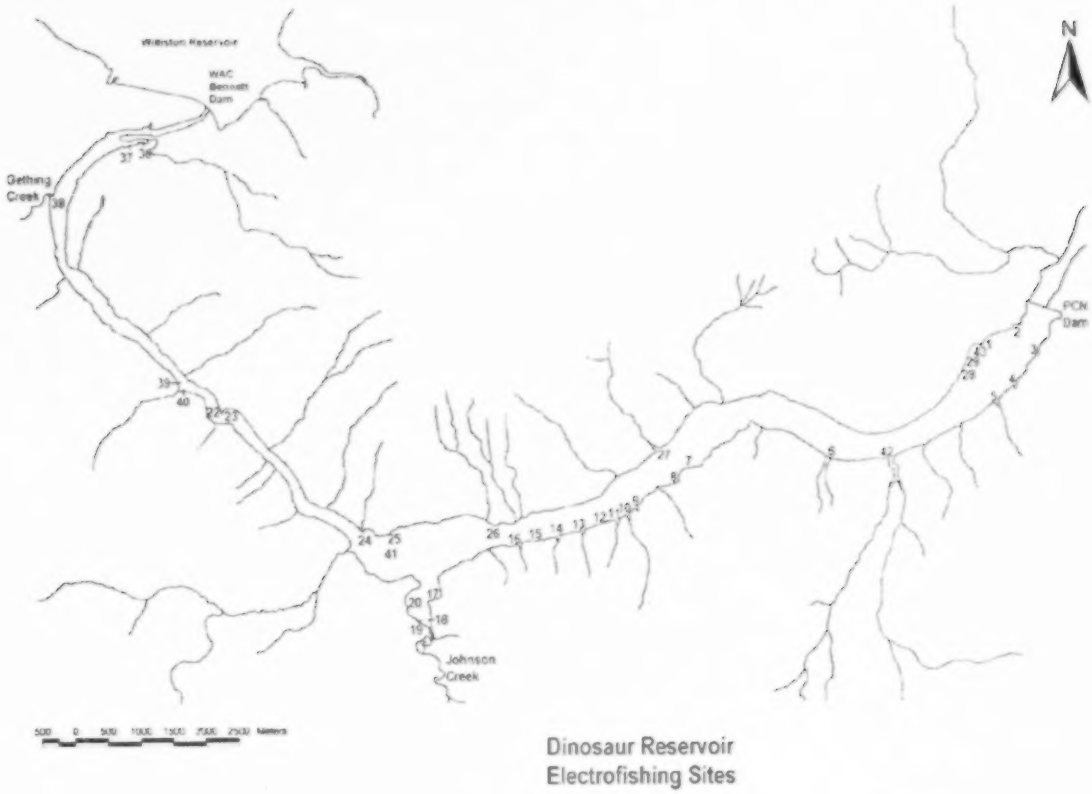

Figure 1. Dinosaur Reservoir Site Identification.

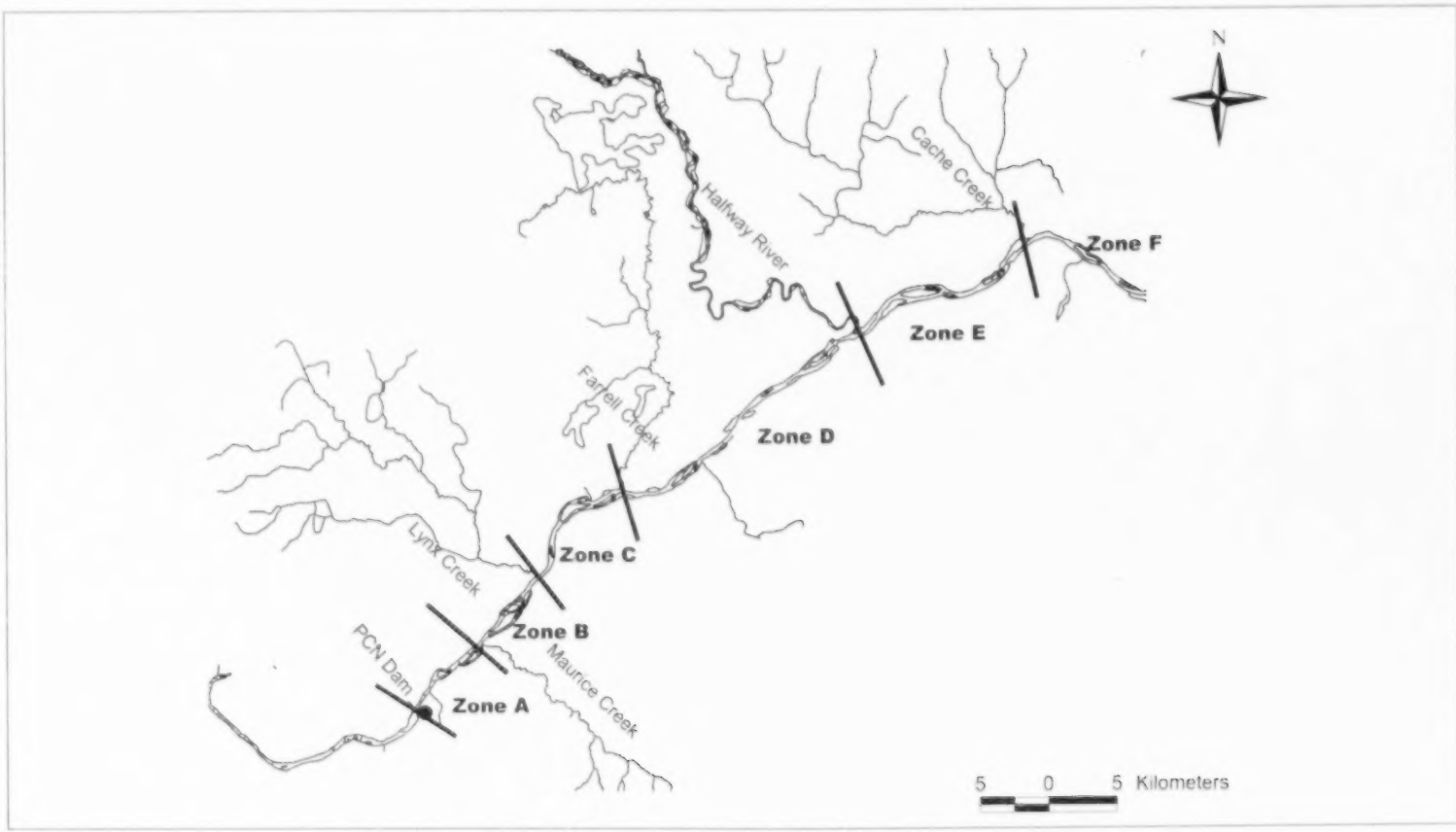

Figure 2. Peace River Site Identification.

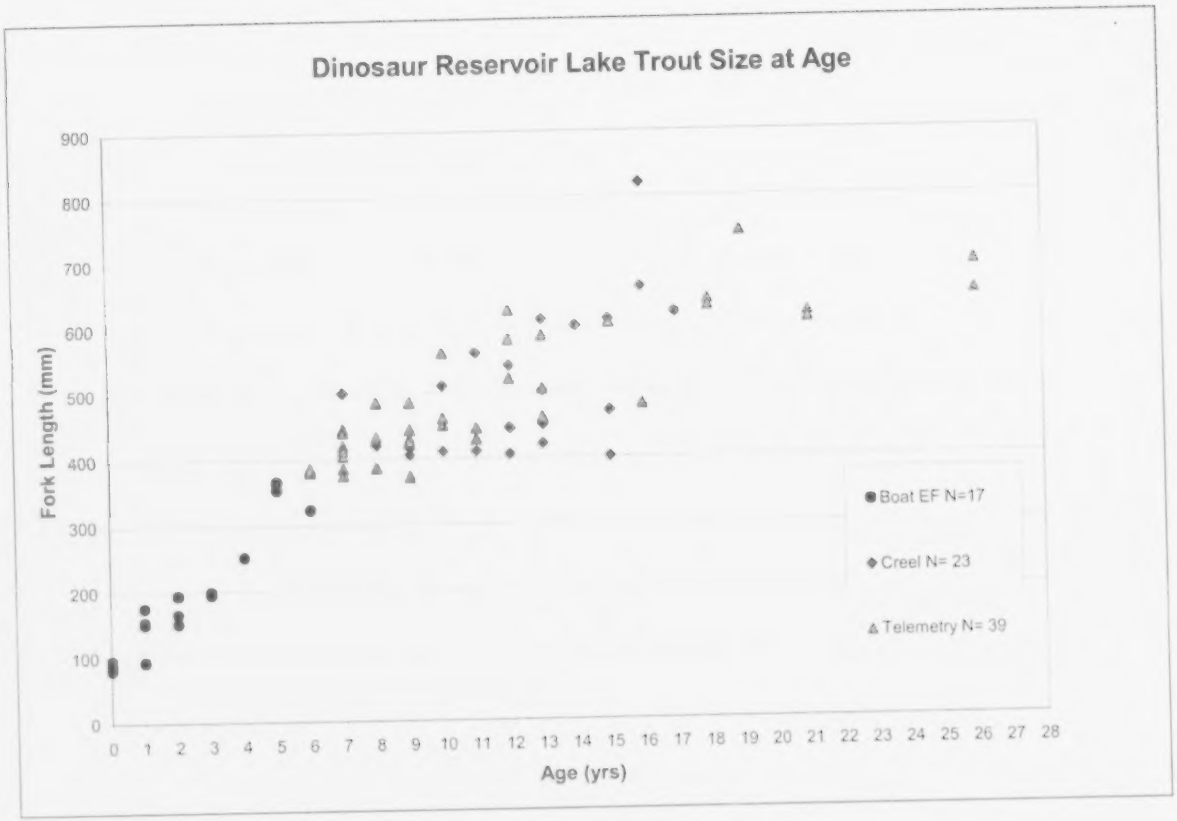

Figure 3. Dinosaur Reservoir Lake Trout Size at Age.